

**REMARKS**

Upon entry of the foregoing amendment, claims 33, 34, 38, 39 and 42-48 will be pending in this application. Claims 33, 38, 47 and 48 are independent claims.

Claims 1-25 had been canceled previously, without prejudice. Claims 28-32, 35-37, 40 and 41 have been canceled in this Amendment, without prejudice, in order to advance the allowance of this application, while not agreeing with the rejections of these claims.

Claims 42 and 43 have been withdrawn by the Examiner as being directed to non-elected species (SEQ ID NOS:1-10). Traversal, reconsideration and withdrawal of the restriction requirement is respectfully solicited upon the allowance of the generic claim 38, since as explained in previous communications and in the application as filed, SEQ ID NO:11 is a consensus sequence among SEQ ID NOS: 1-10, as set forth in the application as filed at page 3, lines 16-17, in Table 1 at page 55, and in Fig. 1. Claims 42 and 43 have been amended in their preamble to be consistent in language with claim 38 relating to the first and second regions of claim 38, from which they depend, so that it will be clear which regions of the protein of claim 38 are referenced in claims 42 and 43. No new matter has been added.

Independent claim 38 has been amended to remove the recitation of "conserved region" and "variable region" and replace these recitations with the identifiers "first region" and "second region" merely to provide appropriate antecedent bases for claims 42 and 43 as explained above. Claim 38 also has been amended for purposes of clarification and accuracy with respect to the second region by inserting the phrase "an amino acid or" with associated clarifying amendments to refer to the single amino acid of (a) residue 51 of SEQ ID NO:11, in addition to the amino acid sequences of the residues (b) through (e) of SEQ ID NO:11. Additionally, claim 38 has been amended to specifically state the nature of amino acids marked "Xaa" in the sequence listing of SEQ ID NO:11. That is, an "Xaa" designation may be absent where there is an absent amino acid at a corresponding position in any one of SEQ ID NOS:1-10 or it may be any amino acid residue found at a corresponding position in any one of SEQ ID NOS:1-10 (*i.e.* when present). See the alignment of SEQ ID NOS:1-10 and SEQ ID NO:11 in Table 1 at page 55 of the application as filed, and in Fig. 1.

New claims 47 and 48 have been added, which respectively recite proteins having 80% and 90% sequence identity with SEQ ID NO:23; SEQ ID NO:24; SEQ ID NO:26; SEQ ID NO:35; SEQ ID NO:36; and SEQ ID NO:38. Support for the 80% and 90% homology in claims 47 and 48 is set forth in the application as filed, for example at page 15, lines 11-13. Support for the sequences recited in claims 47 and 48, which are the same sequences recited in previously presented claim 39, and are a subset of the sequences recited in original claim 12, now canceled.

Each rejection in turn will now be discussed.

### **Written Description**

Claims 28, 35, 36, 38-41 and 44-46 were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter that is not described in the specification in such a way as to enable one skilled in the art to which it pertains, or to which it is most nearly connected, to make and/or use the invention. This rejection was termed a “written description rejection” in section 4 of the Office Action. The same section referred to various portions of the application as disclosing fragments, derivatives and variants. As a result, the Office Action concluded that one skilled in the art would not know what fragments, derivatives and variants were intended.

With particular regard to independent claim 38, Applicants believe that this claim as currently amended addresses the Examiner’s contention that there is no teaching as to which amino acids may be varied and which may not.

Applicants respectfully submit that the claims as now amended comply entirely with the Examiner's suggestions regarding written description. Claim 38 and all claims depending from it recite that the isolated protein consists of the specifically recited sequences explicitly stated in the claim. That is, the consisting of language and explicit recitation of the nature of amino acids marked “Xaa” in the sequence listing of SEQ ID NO:11 clearly allows the skilled artisan to envision the detailed chemical structure of each and every protein encompassed by claim 38. That is, amended claim 38 recites that an “Xaa” in SEQ ID NO:11 may be absent where there is an absent amino acid at a corresponding position in any one of SEQ ID NOS:1-10 or it may be any amino acid residue found at a corresponding position in any one of SEQ ID NOS:1-10 (*i.e.* when present).

Although the number of proteins encompassed by claim 38 is large, there is a finite set of "options" for any Xaa amino acid in SEQ ID NO:11. As evidenced by the sequence alignment in Fig. 1, the amino acids in SEQ ID NO:11 that are variable and conserved have always been identified in the specification, as have been the corresponding amino acid residues in SEQ ID NOS:1-10, whether absent or present.

In this regard, it is respectfully submitted that Applicants have always demonstrated possession of the invention the subject matter of claim 38. While Applicants have not undertaken the laborious task of writing out each and every possible structure encompassed by claim 38, if desired, this could be readily undertaken without any undue experimentation by a skilled artisan based solely on the information provided by the specification. This demonstration of possession has not required an *ipsis verbis* recitation of all possible sequences that can be envisaged within the scope of claim 38, because the specification (particularly Fig. 1) has provided a template or guide whereby the skilled artisan can readily comprehend each and every sequence encompassed by claim 38.

The other claims rejected under 35 U.S.C. § 112, first paragraph, have been canceled, without prejudice. Therefore, this ground of rejection is moot with respect to the canceled claims.

Applicants respectfully request reconsideration and withdrawal of the rejection of any claims pending after entry of this Amendment based on 35 U.S.C. § 112, first paragraph.

**Anticipation - US patent 6,197,312 (Peak)**

This anticipation rejection under 35 U.S.C. § 102 (e) was raised in relation to claims 28, 29, 31, 32 and 35-37, all of which claims have been canceled without prejudice. Accordingly, the anticipation rejection is now moot.

**Anticipation - International Publication WO 99/36544 (Massignani)**

This anticipation rejection under 35 U.S.C. § 102 (a) was raised in relation to claims 28, 29, 31, 32 and 35-37, all of which claims have been canceled without prejudice. Accordingly, this rejection also is now moot.

**New Matter**

Section 7 of the Office Action rejected claims 38-41 and 44-46 under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement as characterized in the Office Action as a new matter rejection. The Office Action indicated that these claims entered new matter by way of reciting "conserved region" in relation to the C3 region fragment 144-198 and reciting "variable region" in relation to residues 51 and 52-54 of the V1 region. Since independent claim 38 has been amended to delete from the respective designations of the first and second regions as "conserved" and "variable," it is respectfully submitted that this rejection has been overcome. As the other claims rejected as containing new matter depend directly or indirectly from claim 38. Accordingly, reconsideration and withdrawal of the new matter rejection are respectfully solicited.

**Conclusion**

Reconsideration and withdrawal of the restriction requirement and of all rejections, and an early Notice of Allowance of all pending claims are respectfully solicited.

Respectfully submitted,

**IAN RICHARD ANSELM PEAK *et al.***

January 21, 2005  
(Date)

By:

Alan S. Nadel  
**ALAN S. NADEL**

Registration No. 27,363

**AKIN GUMP STRAUSS HAUER & FELD LLP**

One Commerce Square

2005 Market Street, Suite 2200

Philadelphia, PA 19103-7013

Telephone: 215-965-1200

**Direct Dial: 215-965-1280**

Facsimile: 215-965-1210

E-Mail: [anadel@akingump.com](mailto:anadel@akingump.com)

ASN:hg  
Enclosures